

Table S1. Details of the loci, primers and annealing temperatures used in this study.

Locus	Size (bp)	Forward primer	Reverse primer	Reference	T _m (C)
<i>CytB</i>	1003	L14723 ACCAATGACATGAAAAATCATCGTT	H15915-S TCTCCATTTCTGGTTTACAAGAC	[40]	55
		L14727-SP GACAGGAAAAATCATCGTTG	H15915-SP TTCATTACTGGTTTACAAGAC	[41]	55
<i>DBY7</i>	504	DBY7 F GGTCCAGGAGARGCTTTGAA	DBY7 R CAGCCAATTCTCTTGTTGGG	[42]	TD 65-55
<i>ApoB</i>	499	APOB-F GCAATCATTTGACTTAAGTG	APOB-R GAGCAACAATATCTGATTGG	[43]	60
<i>BRCA1</i>	774	B1F TGAGAACAGCACTTTATTACTCAC	B1R ATTCTAGTTCCATATTGCTTATACTG	[44]	60
<i>ZFX1</i>	190	ZFX1SA-F GGTTAAAAGATGGGGCTGGAGA	ZFX1SA-R GCATGAGCGGTCAAGTTCTGTT	This study	64

bp: base pairs; T_m: primer melting temperature; TD: touchdown PCR

Table S2. All *Sorex* from Portugal, Spain, France and Andorra that were genetically typed in this study for various combinations of the mitochondrial locus *CytB* and nuclear loci *ApoB*, *BRCA1*, *DBY7* and *ZFX1*. They were classified as *Sorex araneus*, *S. coronatus* or *S. granarius* based on geography [14] or genotype at nuclear or mitochondrial DNA loci (see text).

Code	Geographical species	nuDNA species	mtDNA species	Locality	Country	<i>CytB</i>	<i>ApoB</i>	<i>BRCA1</i>	<i>DBY7</i>	<i>ZFX1</i>
SM.AS.0323	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Picos de Europa	Spain	X	X	X		X
SM.CA.0340	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Cantabria	Spain	X	X	X	X	X
SM.AS.0448	<i>coronatus/granarius</i>	-	<i>granarius</i>	Illano	Spain	X				
SM.AS.0449	<i>coronatus/granarius</i>	<i>coronatus</i>	-	Illano	Spain				X	X
SM.AS.0451	<i>coronatus/granarius</i>	-	<i>granarius</i>	Illano	Spain	X				
SM.AS.0452	<i>coronatus/granarius</i>	<i>coronatus</i>	-	Illano	Spain		X			X
SM.AS.1180	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Picos de Europa	Spain	X	X	X	X	X
SM.AS.1181	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Picos de Europa	Spain	X	X	X	X	X
SM.AS.1182	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Picos de Europa	Spain	X	X	X	X	X
SM.AS.1183	<i>coronatus</i>	<i>coronatus</i>	-	Picos de Europa	Spain		X	X	X	X
SM.AS.1185	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Picos de Europa	Spain	X				X
SM.CA.1187	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Cantabria	Spain	X	X	X	X	X
SM.CA.1188	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Cantabria	Spain	X	X	X	X	X
SM.CA.1189	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Cantabria	Spain	X	X		X	X
SM.PB.1190	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Bizcaia	Spain	X	X	X		X
SM.PB.1191	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Bizcaia	Spain	X	X	X	X	X
SM.PB.1192	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Bizcaia	Spain	X	X	X	X	X
SM.BU.1193	<i>coronatus</i>	<i>coronatus</i>	-	Burgos	Spain		X	X	X	X
SM.BU.1194	<i>coronatus</i>	<i>coronatus</i>	-	Burgos	Spain		X	X	X	X
SM.BU.1195	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Burgos	Spain	X	X	X		X
SM.BU.1196	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Burgos	Spain	X	X	X		X
SM.BU.1197	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Burgos	Spain	X	X	X	X	X
SM.1344	<i>granarius</i>	-	<i>granarius</i>	Bertiandos	Portugal	X				
SM.1990	<i>granarius</i>	<i>granarius</i>	<i>granarius</i>	Parque Nac. Peneda Geres	Portugal	X	X	X	X	X
SM.2175	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Picos de Europa	Spain	X	X	X		X
SM.2176	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Burgos	Spain	X	X	X		X
SM.2178 ¹	<i>araneus/coronatus</i>	<i>araneus</i>	<i>araneus</i>	Pyrenees	Spain	X	X	X		X
SM.2179 ²	<i>araneus/coronatus</i>	<i>araneus</i>	<i>araneus</i>	Pyrenees	Spain	X	X		X	X

SM.2182 ³	<i>araneus/coronatus</i>	<i>araneus</i>	-	Vall d'Aran	Spain		X			
SM.2183 ⁴	<i>araneus/coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Eugui	Spain	X	X		X	
SM.2184 ⁵	<i>araneus/coronatus</i>	<i>araneus</i>	<i>araneus</i>	Tarter Pas Casa	Andorra	X	X			X
SM.2196	<i>coronatus</i>	-	<i>coronatus</i>	Baie de l'Aiguillon	France	X				
SM.2199	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Abbeville	France	X	X	X	X	X
SM.2200	<i>coronatus</i>	<i>coronatus</i>	-	Abbeville	France			X	X	X
SM.2201	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Calais	France	X	X	X	X	X
SM.2202	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Calais	France	X	X	X	X	X
SM.2203	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Calais	France	X	X	X		X
SM.2204	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Broualan	France	X	X	X	X	X
SM.2206	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Mas d'Artige	France	X	X	X	X	
SM.2207	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	St Setiers	France	X	X	X	X	X
SM.2208	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	St Setiers	France	X	X	X	X	X
SM.2209	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	St Setiers	France	X	X	X	X	X
SM.2210	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	St Setiers	France	X	X	X	X	X
SM.2211	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Troarn	France	X	X	X		X
SM.2212	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Broualan	France	X	X	X	X	X
SM.2213	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Broualan	France	X	X		X	
SM.2214	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Beauvoir	France	X	X	X	X	X
SM.2215	<i>coronatus</i>	<i>coronatus</i>	-	Beauvoir	France		X	X	X	
SM.2216	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Beauvoir	France	X	X	X	X	X
SM.2217	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Mas d'Artige	France	X	X	X		
SM.2218	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Mas d'Artige	France	X	X	X	X	
SM.2219	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Mas d'Artige	France	X	X	X		X
SM.2222	<i>granarius</i>	<i>granarius</i>	<i>granarius</i>	Samarra	Portugal	X	X			X
SM.2224	<i>granarius</i>	<i>granarius</i>	<i>granarius</i>	Serra da Estrela	Portugal	X	X			X
SM.2225	<i>granarius</i>	<i>granarius</i>	<i>granarius</i>	Sintra	Portugal	X	X	X		X
SM.2228	<i>coronatus</i>	<i>coronatus</i>	-	Calais	France				X	X
SM.2229	<i>coronatus</i>	<i>coronatus</i>	-	Calais	France					X
SM.2230	<i>coronatus</i>	<i>coronatus</i>	-	Mt St Michel	France		X			X
SM.2231	<i>coronatus</i>	<i>coronatus</i>	<i>coronatus</i>	Mt St Michel	France	X	X			X
SM.2232	<i>coronatus</i>	<i>coronatus</i>	-	Calais	France		X			X

SM.2433	<i>granarius</i>	-	<i>granarius</i>	Vila-Chã	Portugal	X				
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¹Granollers Museum code: 96116112

²Granollers Museum code: 96041911

³Granollers Museum code: 98063001

⁴Granollers Museum code: 96091009

⁵Granollers Museum code: P1/AND1

Table S3. Diversity statistics for the mitochondrial locus *CytB* in *Sorex araneus*, *S. coronatus* or *S. granarius*, grouped according to nuclear or mitochondrial species identity (see Table S2). Data based on our new samples and those of Yannic et al. [13]. See text for further details.

Category	N individuals	N haplotypes	Haplotype diversity (<i>Hd</i>)	Π	Tajima's <i>D</i>	Fu's <i>F_s</i>
<u>Nuclear species level</u>						
<i>S. araneus</i>	27	16	0.940+-0.00073	0.00608	-0.98317	-3.873
<i>S. coronatus</i>	43	30	0.981+-0.00009	0.01371	-1.05151	-7.277
<i>S. granarius</i> (Portugal + Central System)	10	9	0.978+-0.00292	0.02512	0.73617	-0.269
<u>mtDNA groups</u>						
<i>S. araneus</i>	31	19	0.953+-0.00045	0.00787	-0.70046	-4.214
<i>S. araneus</i> (Pyrenees) + Central System <i>S. granarius</i> group	10	5	0.822+-0.00940	0.00379	0.33247	0.880
<i>S. araneus</i> (France, Switzerland, Poland)	21	14	0.933+-0.00158	0.00305	-2.06698	-7.787
<i>S. coronatus</i>	43	30	0.981+-0.00009	0.01371	-1.05151	-7.277
<i>S. granarius</i> (Western Iberia)	8	8	1.0+-0.00391	0.00716	-1.77245	-2.933
<u>Geographic subpopulations</u>						
<i>S. araneus</i> (Pyrenees)	6	2	0.533+-0.02963	0.00106	1.03194	1.723
<i>S. araneus</i> (France, Switzerland, Poland)	21	14	0.933+-0.00158	0.00305	-2.06698	-7.787
<i>S. coronatus</i> (Spain)	18	13	0.967+-0.00068	0.01260	-0.13873	-0.835
<i>S. coronatus</i> (France, Switzerland)	25	17	0.960+-0.00054	0.01078	-0.64136	-2.421